```
File 411:DIALINDEX(R)

DIALINDEX(R)
   (c) 2004 The Dialog Corporation plc

*** DIALINDEX search results display in an abbreviated ***
*** format unless you enter the SET DETAIL ON command. ***
   You have 62 files in your file list.
   (To see banners, use SHOW FILES command)
?s (Si-Ge or Ge-Si or silicon(1n)germanium)(12n)(interlayer or interface)

Your SELECT statement is:
   s (Si-Ge or Ge-Si or silicon(1n)germanium)(12n)(interlayer or interface)

          Items   File
          -----   ----
             35     2: INSPEC_1969-2004/Feb W1
              2     6: NTIS_1964-2004/Feb W2
              3     8: Ei Compendex(R)_1970-2004/Feb W1
             40    34: SciSearch(R) Cited Ref Sci_1990-2004/Feb W2
              2    35: Dissertation Abs Online_1861-2004/Jan

### Status: Break Sent.

?s (Si-Ge or Ge-Si or silicon(1n)germanium)(12n)(interlayer or interface) and (silicide
 or salicide) and (pd<20000306 or py<2001)

Your SELECT statement is:
   s (Si-Ge or Ge-Si or silicon(1n)germanium)(12n)(interlayer or interface)
and (silicide or salicide) and (pd<20000306 or py<2001)

          Items   File
          -----   ----
              1     2: INSPEC_1969-2004/Feb W1
              2    34: SciSearch(R) Cited Ref Sci_1990-2004/Feb W2
              1    95: TEME-Technology & Management_1989-2004/Jan W4
      Examined  50 files

### Status: Break Sent.

?b 2
       13feb04 12:36:04 User264704 Session D163.2
            $9.44    4.197 DialUnits File411
     $9.44  Estimated cost File411
     $1.25  TELNET
    $10.69  Estimated cost this search
    $10.71  Estimated total session cost   4.348 DialUnits


File   2:INSPEC  1969-2004/Feb W1
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*File   2: Alert feature enhanced for multiple files, duplicates
removal, customized scheduling. See HELP ALERT.

      Set  Items  Description
      ---  -----  -----------
?s (Si-Ge or Ge-Si or silicon(1n)germanium)(12n)(interlayer or interface) and (silicide
 or salicide) and (pd<20000306 or py<2001)
            825  SI-GE
            810  GE-SI
         306542  SILICON  (January 1969)
          42193  GERMANIUM  (January 1969)
           3913  SILICON(1N)GERMANIUM
          10344  INTERLAYER
         254930  INTERFACE
             35  ((SI-GE OR GE-SI) OR
                 SILICON(1N)GERMANIUM)(12N)(INTERLAYER OR INTERFACE)
```

```
            8129  SILICIDE
             579  SALICIDE
           20578  PD<20000306
         6927446  PY<2001
      S1       1  (SI-GE OR GE-SI OR SILICON(1N)GERMANIUM)(12N)(INTERLAYER
                  OR INTERFACE) AND (SILICIDE OR SALICIDE) AND (PD<20000306
                  OR PY<2001)
?t s1/full/1

 1/9/1
DIALOG(R)File   2:INSPEC
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6464472   INSPEC Abstract Number: A2000-04-6475-001
 Title: Germanium segregation in the Co/SiGe/Si(001) thin film system
  Author(s): Goeller, P.T.; Boyanov, B.I.; Sayers, D.E.; Nemanich, R.J.;
Myers, A.F.; Steel, E.B.
  Author Affiliation: Dept. of Phys., North Carolina State Univ., Raleigh,
NC, USA
  Journal: Journal of Materials Research    vol.14, no.11    p.4372-84
  Publisher: Mater. Res. Soc,
  Publication Date: Nov. 1999  Country of Publication: USA
  CODEN: JMREEE  ISSN: 0884-2914
  SICI: 0884-2914(199911)14:11L.4372:GSST;1-6
  Material Identity Number: I870-1999-011
  U.S. Copyright Clearance Center Code: 0884-2914/99/$2.50
  Language: English    Document Type: Journal Paper (JP)
  Treatment: Bibliography (B); Experimental (X)
  Abstract: Cobalt disilicide contacts to silicon-germanium alloys were
formed by direct deposition of pure cobalt metal onto silicon-germanium
films on Si(001) substrates. Segregation of germanium was observed during
the reaction of the cobalt with the silicon-germanium alloy. The nature of
the Ge segregation was studied by transmission electron microscopy, energy
dispersive spectroscopy, and X-ray diffraction. In the case of cobalt films
deposited onto strained silicon-germanium films, the Ge segregation was
discovered to be in the form of Ge-enriched Si/sub 1-x/Ge/sub x/ regions
found at the surface of the film surrounding CoSi and CoSi/sub 2/ grains.
In the case of cobalt films deposited onto relaxed silicon-germanium films,
the Ge segregation was dependent on formation of CoSi/sub 2/. In samples
annealed below 800 degrees C, where CoSi was the dominant silicide phase,
the Ge segregation was similar in form to the strained Si/sub 1-x/Ge/sub x/
case. In samples annealed above 800 degrees C, where CoSi/sub 2/ was the
dominant silicide phase, the Ge segregation was also in the form of
tetrahedron-shaped, Ge-enriched, silicon - germanium precipitates, which
formed at the substrate/ silicon - germanium film interface and grew
into the Si substrate. A possible mechanism for the formation of these
precipitates is presented based on vacancy generation during the
silicidation reaction coupled with an increased driving force for Ge
diffusion due to silicon depletion in the alloy layer. (57 Refs)
  Subfile: A
  Descriptors: cobalt; diffusion; Ge-Si alloys; metallic thin films;
segregation; semiconductor thin films; silicon; transmission electron
microscopy; vacancies (crystal); X-ray chemical analysis; X-ray diffraction
  Identifiers: direct deposition; pure Co metal; strained Si-Ge films;
Si(001) substrates; reaction; Si-Ge alloy; Ge segregation; transmission
electron microscopy; energy dispersive spectroscopy; X-ray diffraction; Co
films; Ge-enriched Si/sub 1-x/Ge/sub x/ regions; CoSi/sub 2/ grains; CoSi
grains; Co/SiGe/Si(001) thin film system; dominant silicide phase;
tetrahedron-shaped Ge-enriched Si-Ge precipitates; substrate/Si-Ge film
interface; mechanism; vacancy generation; silicidation reaction; driving
force; Ge diffusion; alloy layer; Si depletion; CoSi/sub 2/ contacts;
Co-SiGe; SiGe-Si; Si; SiGe; CoSi/sub 2/; CoSi
  Class Codes: A6475 (Solubility, segregation, and mixing); A6865 (
Low-dimensional structures: growth, structure and nonelectronic properties)
; A6170B (Interstitials and vacancies); A6630J (Diffusion, migration, and
displacement of impurities in solids); A6822 (Surface diffusion,
segregation and interfacial compound formation)
```

```
  Chemical Indexing:
  Co-SiGe int - SiGe int - Co int - Ge int - Si int - SiGe bin - Ge bin -
Si bin - Co el (Elements -  1,2,3)
  SiGe-Si int - SiGe int - Ge int - Si int - SiGe bin - Ge bin - Si bin -
Si el (Elements -  2,1,2)
  Si sur - Si el (Elements -  1)
  SiGe sur - Ge sur - Si sur - SiGe bin - Ge bin - Si bin (Elements -  2)
  CoSi2 bin - Si2 bin - Co bin - Si bin (Elements -  2)
  CoSi bin - Co bin - Si bin (Elements -  2)
  Copyright 2000, IEE
?
### Status: Signing Off...
logoff
       13feb04 12:37:26 User264704 Session D163.3
            $4.33    0.559 DialUnits File2
               $2.70  1 Type(s) in Format  9
            $2.70  1 Types
     $7.03  Estimated cost File2
     $0.50  TELNET
     $7.53  Estimated cost this search
    $18.24  Estimated total session cost   4.907 DialUnits
```